

12.0 ARTIFICIAL PENETRATIONS

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Within a 2-1/2 mile radius of URI's proposed well location, a total of 87 artificial penetrations exist as shown on the map included as Figure 39. On this map, the area of investigation is divided into four quadrants labeled A through D and each penetration is assigned a control number. Well schematics showing the current status of each well are presented in Volumes II and III due to the number of penetrations and the voluminous supporting documents. A tabulation of the artificial penetrations is included as Table 34, in this volume.

Of the 87 artificial penetrations found, 87 are active oil and gas wells or are properly plugged oil and gas wells, and the remaining are plugged or abandoned dry holes. No brine wells or other waste water disposal wells are within the 2-1/2 mile radius.

To determine if any of the improperly plugged or abandoned wells present a problem to deep-well disposal, calculations were made (Section 7) to differentiate the pressure balance in the disposal zone. The nearest abandoned well, which penetrates within 300 feet of the disposal zone is plugged only with drilling mud, is well number IV-3, at a distance of approximately 6300 feet. The maximum reservoir pressure increase in this well from the proposed operation is estimated to be 65 psi after 20 years. Pressure balance calculations indicated that even after 20 years, the hydrostatic pressure of the mud column exceeds the reservoir pressure by 80 psi. This pressure balance is conservative because adding the gel strength of the mud and its resistance to shear deformation increases the pressure balance to 219 psi.

Data On Artificial Penetrations Within 2½ Miles Of Disposal Well

Well Code No.	Operator Lease/ Owner	Total Depth	Dist. From Well	Completion Data				Plugging Data				Remarks
				Casing		Cement		Date Plugged	Casing Left	Cement		
				Size	Depth	Depth	Vol.			Depth	Vol.	
A-1A	Chicago Corp. #1 J.T. Rogers	4,001'	7,875'	-	-			10/27/59	None	Plug #1 1128-616 Plug #2 Surface	200 SX 25 SX	
A-17	Carter & Carter 2 - I. Olson	3,079'	7,800'	10-3/4 5-1/2 2-3/8	270 3,079 3,011			01/12/56	270 3,079 0	Plug #1 3053 -3011 Plug #2 40-4 Plug #3 Surface	N/A N/A 5 SX	
A-19	Cam Corporation #2 I. Olson	3,125'	8,100	5-1/2	3,087			04/28/68	N/A	Plug #1 3,087 - 0	75 SX	Bull plug and stage on 5-1/2" casing with 75 SX
A-20	Cam Corporation #1 G.M. Olson	3,178'	8,400'	None	N/A			10/17/47	N/A	None	N/A	No casing, no plugs.
A-21	Thomas West Jr. #1 Jose Ramirez	3,752'	9,900'	None	N/A			07/21/68	N/A	Plug #1 1,500-1,400' Plug #2 100-10 Plug #3 10-0	43 SX 35 SX 2 SX	
A-19A	TKA #1 Ramirez "B"	3,118'	8,400'	4-1/2	3,107			N/A	N/A	N/A	N/A	Active oil well.
A-21A	Lobo Resources #2 J.A. Ramirez	5,310'	9,350'	8-5/8	1,290			N/A	N/A	N/A	N/A	Active oil well.
D-22B	Lobo Resources #1 J.A. Ramirez	5,410'	9,100'	8-5/8	1,532			N/A	N/A	N/A	N/A	Active oil well.
D-34A	Lobo Resources	5,410'	8,200'	8-5/8	1,272			N/A	N/A	N/A	N/A	Active oil well.

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Well Code No.	Operator Lease/ Owner	Total Depth	Dist. From Well	Completion Data				Plugging Data				Remarks
				Casing		Cement		Date Plugged	Casing Left	Cement		
				Size	Depth	Depth	Vol.			Depth	Vol.	
D-22A	TKA #1 Ramirez "B"	3,158'	9,000'	2-7/8	3,131			01-26-84	3,131	Plug #1 3,007-2,650 Plug #2 1,500-1,150 Plug #3 40-0	10 SX 10 SX 1 SX	
B-71	W. H. Appel #1 E. J. Rogers	3,535'	12,300'	10"	42			09/09/38	42	N/A	N/A	No cement plugs were used. Hole was filled with heavy mud.
D-5A	Lobo Resources #2 C.F. Germer	5,410'	13,300'	8-5/8 4-1/2	1,213 5,409			Active	N/A	N/A	N/A	Active oil well.
D-10A	Lobo Resources #1 C.F. Germer	7,650'	10,700'	8-5/8	1,547			Active	N/A	N/A	N/A	Active oil well.
A-17A	Herschap Brothers #3 Jose Ramirez	5,314'	7,800'	8-5/8	1,274			Active	N/A	N/A	N/A	Active oil well.
A-18A	Herschap Brothers #2 Jose Ramirez	6,210'	8,200'	8-5/8	1,281			Active	N/A	N/A	N/A	Active oil well.
A-20A	Herschap Brothers #1 Jose Ramirez	5,400'		8-5/8	1,250			Active	N/A	N/A	N/A	Active oil well.
A-26	Killam & Hurd #1 - O. Pena	3,580	11,650'	8-5/8	62			07-05-63	62	Plug #1 1,500-1,400	24 SX	
A-28	W.L. Cotton #1 C.F. Pena	2,886	12,000	9-5/8	118			02-04-55	118	Plug #1 1,120-1,055 Plug #2 130 - 60 Plug #3 Surface	N/A N/A 10 SX	

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Well Code No.	Operator Lease/ Owner	Total Depth	Dist. From Well	Completion Data				Plugging Data				Remarks
				Casing		Cement		Date Plugged	Casing Left	Cement		
				Size	Depth	Depth	Vol.			Depth	Vol.	
A-29	Rogers and Rogers #1 R. Pena	2,892	11,700	10-3/4	48			12-21-38	48	Plug #1 Surface	20 SX	No plugging info found. No plugs were found.
A-30	Washington Texas Oil and Gas Company #1 Rita S. Pena	2,630	12,200	10	20			9-17-34	20	Plug #1 Surface		
A-31	Rogers and Rogers #4 R.S. Pena	3,514	12,550	10	21			12-18-38	21	N/A	-	
A-32	Rogers and Rogers #2 R.S. Pena	2,957	11,400	10	20			10-03-36	20	N/A	-	
A-33	Killam & Hurd Etal. #1 Gus Becker	3,520	12,100	N/A	N/A			08-02-63	N/A	Plug #1 1,550-1,450 Plug #2 Surface	25 SX 5 SX	
A-34	Carter & Carter #1 J.T. Rogers	3,070	7,300	10-3/4 5-1/2 2-3/8	211 3,068 3,021			07-15-55	211 1,081 0	Plug #1 @ 3,050 Plug #2 @ 200	20 SX 10 SX	
A-35	Thomas S. West, Jr. #2 J.T. Rogers	3,256	6,700	N/A	N/A			12-11-68	N/A	Plug #1 1,200-1,100 Plug #2 100-0	50 SX 35 SX	
A-35A	Carter & Carter #1 Olson	3,070	7,600	10-3/4 5-1/2 2-3/8	60 3,071 3,020			09-15-67	60 3,071 3,020	Plug #1 3,040-2,940 Plug #2 20-4	12 SX 2 SX	

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Well Code No.	Operator Lease/ Owner	Total Depth	Dist. From Well	Completion Data				Plugging Data				Remarks
				Casing		Cement		Date Plugged	Casing Left	Cement		
				Size	Depth	Depth	Vol.			Depth	Vol.	
A-36	Chiles Well Servicing Company #1 E.J. Rogers	3,085	9,200	10-3/4	73			11-15-51	73	Plug #1 1,550-1,475 Plug #2 925-850	30 SX 30 SX	
A-37	Texas Royalty Company #1 Benavides	3,510	11,450	10-3/4	41			05-09-43	41	No plugs.		
A-38	Clay Chiles #2 D.C. Chapa	3,062		10-3/4	240			05-02-52	240	Plug #1 1,980-1,888 Plug #2 18-0	35 SX	
B-72	Riddle Oil Company #1 Hazel Taylor Lott	3,910	13,400	None	-			05-09-80	-	Plug #1 1,380-1,145 Plug #2 200-4	50 SX 50 SX	
A-36A	Lobo Resources Ltd. #2 C.F. Germer "A"	5,310	7,750	8-5/8 4-1/2	1,292 5,309			-	1,292 5,309	N/A N/A	-	Active oil well.
A-73	Lobo Resources, Ltd. #2 Cleo Benavides "B"	5,401	12,100	8-5/8 4-1/2	1,294 5,409			-	1,294 5,409	-	-	Active oil well.
A-39A	Lobo Resources, Ltd. #1 Cleo Benavides "B"	5,350	11,700	8-5/8 4-1/2	1,275 5,338			-	1,275 5,338	-	-	Active oil well.
A-38A	Lobo Resources, Ltd. #1 Rodolfo Perez, etal.	5,410	10,200	8-5/8 4-1/2	1,295 5,410			-	1,295 5,410	-	-	Active oil well.
A-37A	Lobo Resources, Ltd. #1 Alonzo Benavides "E"	5,310	10,300	8-5/8 4-1/2	1,299 5,300			-	1,299 5,300	-	-	Active oil well.

Data On Artificial Penetrations Within 2½ Miles Of Disposal Well

Well Code No.	Operator Lease/ Owner	Total Depth	Dist. From Well	Completion Data				Plugging Data				Remarks
				Casing		Cement		Date Plugged	Casing Left	Cement		
				Size	Depth	Depth	Vol.			Depth	Vol.	
A-38	A.G. Hill #1 J. Benavides	3,512	11,200	9-5/8	66			11-14-54	66	Plug #1 1,300 - 1,100 Plug #2 Surface	80 SX 10 SX	
A-42	Elay Chiles, etal. #1 D.C. Chapa	3,013	10,500	10-3/4 5-1/2	108 3,005			10-24-59	108 1,667	Plug #1 3,013-2,950 Plug #2 1,400-1,150 Plug #3 157-52 Plug #4 Surface	N/A N/A N/A 5 SX	
A-42A	Clay Chiles, etal. # Juan Benavides	3,084	11,250	10-3/4	71			03-13-51	71	Plug #1 1,250-1,185 Plug #2 975-910 Plug #3 90-30	25 SX 25 SX 25 SX	
A-93A	Texas Royalty Co. #1 D.C. Chapa	3,118	10,550	10-3/4	92			11-28-44	92	Plug #1 Surface	20 SX	
A-43B	Commonwealth Oil & Gas Company # J. Benavides	3,162	13,000	N/A	N/A			03-16-33	N/A	N/A	N/A	No plugging data on Form 4.
A-44	Prescott williams #1 Alonzo Taylor	3,567	5,100	10-3/4	62			08-14-40	62	N/A		No plugging data on Form 4.
A-45	Cities Service Oil #1 Benavides "B"	3,816	8,900	8-5/8	163			10-29-72	163	Plug #1 1,850-1,490 Plug #2 216-116 Plug #3	100 SX 50 SX 5 SX	

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Well Code No.	Operator Lease/ Owner	Total Depth	Dist. From Well	Completion Data				Plugging Data				Remarks
				Casing		Cement		Date Plugged	Casing Left	Cement		
				Size	Depth	Depth	Vol.			Depth	Vol.	
B-46	Jake Hamon & Edwin Cox #1 J. T. Rogers	5,221	8,800	9-5/8	80			12-06-52	80	Plug #1 1,110-75	? SX	Number of SX is unknown.
B-46A	Ed. W. Dawson #1 Juan Benavides	4,002	13,050	9-5/8	145			10-06-63	145	Plug #1 1,900-1,800 Plug #2 200-100	? SX ? SX	
B-47	C.M. Forney & Jack W. Russell #1 Herberto Benavides	3,785	12,300	8-5/8	112			12-08-71	112	Plug #1 1,550-1,450 Plug #2 150-0	45 SX 50 SX	
B-49	Jake L. Hamon and Edwin L. Cox #2 Alonzo Taylor	4,010	6,700	10-3/4	95			08-17-53	95	Plug #1 1,150-50 Plug #2 10-0	400 SX ? SX	
B-50	Henshaw Brothers #4 Alonzo Taylor	3,795	6,600	8-5/8	65			04-24-56	65	Plug #1 @ 3,795 Plug #2 @ 1,200 Plug #3 @ 65 Plug #4 Surface	15 SX 15 SX 10 SX 5 SX	
B-51	Henshaw Brothers #3 Alonzo Taylor	3,757	6,100	5-1/2	3,757			03-04-61	3,757	Plug #1 3,757-3,707 Plug #2 30-0	10 SX 5 SX	
B-52	C.S. Sollers	4,015	5,900	N/A	N/A			12-10-45	N/A	N/A	N/A	No plugs were used. Heavy mud filled hole.

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Well Code No.	Operator Lease/ Owner	Total Depth	Dist. From Well	Completion Data				Plugging Data				Remarks
				Casing		Cement		Date Plugged	Casing Left	Cement		
				Size	Depth	Depth	Vol.			Depth	Vol.	
B-53	Henshaw Brothers #5 Alonzo Taylor	3,768	5,700	8-5/8	64			06-24-56	64	Plug #1 3,768-3,707 Plug #2 1,100-1,050 Plug #3 Surface	16 SX 16 SX 18 SX	
B-54	Henshaw Brothers #1 Alonzo Taylor	3,820	3,600	8-5/8	112			10-20-55	112	Plug #1 1,100-975 Plug #2 100-60	35 SX 10 SX	
B-55	Henshaw Brothers #6 Alonzo Taylor	3,731	3,800	8-5/8	60			08-18-56	60	Plug #1 3,731-3,654 Plug #2	? SX ? SX	
C-56	Jake Hamon & Edwin Cox	3,792	3,250	9-5/8	80			06-18-50	80	Plug #1 80-50 Plug #2 Surface	? SX 5 SX	
C-57	Killam & Hurd #1 Alonzo Taylor	2,633	4,500	7-7/8	1,500			04-20-70	1,500	Plug #1 1,500-1,400 Plug #2 100-0	45 SX 35 SX	
C-58	Dan Auld #1 Alonzo Taylor	4,010	5,500	8-5/8	180			03-06-43	180	N/A		Plugged with shoe in casing. Hole filled with heavy mud.
C-59	Sid Katz & Hillcrest Oil Company #1 Alonzo Taylor	5,463	7,350	10-3/4	93			08-28-55	93	Plug #1 2,008-1,846	25 SX	
C-60	Jake Harmon & Edwin L. Cox #1 Alonzo Taylor	5,710	8,200	9-5/8	140			08-30-52	140	Plug #1 10' at bottom Plug #2 1,200-120 Plug #2 Surface	? SX ? SX 5 SX	

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Well Code No.	Operator Lease/ Owner	Total Depth	Dist. From Well	Completion Data				Plugging Data				Remarks
				Casing		Cement		Date Plugged	Casing Left	Cement		
				Size	Depth	Depth	Vol.			Depth	Vol.	
C-61	Harris S. Stahl #2-A H. Benavides	5,471	8,600	10-3/4	100			09-13-58	100	Plug #1 1,770-1,702 Plug #2 1,410-1,342 Plug #3 1,020-952 Plug #4 550-482 Plug #5 Surface	25 SX 25 SX 25 SX 25 SX 10 SX	Lost hole at 4,402 ft. Was unable to recover drill pipe after twist off.
C-62	Harris S. Stahl #2 H. Benavides	4,402	8,750	10-3/4	100			09-03-58	100	Plug #1 1,770-1,702 Plug #2 1,410-1,342 Plug #3 1,020-952 Plug #4 550-482 Plug #5 Surface	25 SX 25 SX 25 SX 25 SX 10 SX	
C-63	Harris S. Stahl #1 H. Benavides	4,125	11,000	10-3/4	97			07-28-58	97	Plug #1 1,820-1,732 Plug #2 1,460-1,392 Plug #3 1,070-1,002 Plug #4 600-532 Plug #5 Surface	25 SX 25 SX 25 SX 25 SX 10 SX	
C-64	Massingill & Rife #1 Juan Benavides	4,212	12,500	10-3/4	30			05-04-47	30	N/A	N/A	No cement plugs set.
C-65	Killam & Hurd #1 Aristeo Trevino	3,670	11,000	8-5/8	134			02-12-61	134	Plug #1 1,575-1,475 Plug #2 300-200 Plug #3 Surface	25 SX 25 SX 5 SX	

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Well Code No.	Operator Lease/ Owner	Total Depth	Dist. From Well	Completion Data				Plugging Data				Remarks
				Casing		Cement		Date Plugged	Casing Left	Cement		
				Size	Depth	Depth	Vol.			Depth	Vol.	
C-66	Killam & Hurd #1 Adalberto Trevino	3,975	10,300	10-3/4	140			01-18-58	140	Plug #1 1,510-1,455 Plug #2 250-185 Plug #3 Surface	25 SX 25 SX 5 SX	20 SX set at bottom surface casing. (PLG1)
C-67	Ben D. Marks, Trustee #1 V. Gruy, etal.	4,215	11,450	10-3/4	130			11-29-50	130	Plug #1 130-120 Plug #2 Surface	20 SX 10 SX	
C-69	Ben D. Marks, Trustee #3 V. Gruy etal.	3,659	12,100	8-5/8	134			05-19-51	134	Plug #1 134-124 Plug #2 Surface	20 SX 10 SX	
C-70	Killam & Hurd #2 Gruy	3,700	11,800	9-5/8 5-1/2	131 3,698			08-20-76	131 3,698	Plug #1 3,647-3,547 Plug #2 1,500-1,450 Plug #3 10-0	15 SX 15 SX 5 SX	
D-1	Chicago Corporation #1 H. Trevino	3,595	7,500					09-29-51	27	Plug #1 310-210 Plug #2 Surface	50 SX 15 SX	
D-2	Valor Oil Company #2 Adalberto Trevino	3,190	11,750	6-5/8	90			10-27-59	90	Plug #1 3,081-3,069 Plug #2 2,760-2,739 Plug #3 2,471-2,454 Plug #4 710-685 Plug #5 215-88	3 SX 6 SX 5 SX 6 SX 32 SX	

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Well Code No.	Operator Lease/ Owner	Total Depth	Dist. From Well	Completion Data				Plugging Data				Remarks	
				Casing		Cement		Date Plugged	Casing Left	Cement			
				Size	Depth	Depth	Vol.			Depth	Vol.		
D-3	Cam Corporation #1 A. Trevino	3,715	13,000	10-3/4	201			N/A	201	None		No plugs used.	
D-4	Valor Oil Corporation #1 A. Trevino	3,789	11,000	6-5/8	90			09-02-59	90	Plug #1 3,652-3,550 Plug #2 3,353-3,323 Plug #3 3,096-3,072 Plug #4 2,798-2,766 Plug #5 2,636-2,534 Plug #6 727-704	26 SX 8 SX 6 SX 8 SX 26 SX 6 SX		
D-5	Jergins Oil Company # E.J. Rogers	3,090	11,900	5-1/2	3,085			09-15-67	3,085	Plug #1 3,035-2,935 Plug #2 20-4	12 SX 2 SX		
D-6	W. H. Appel, etal. #1 J.T. Rogers	3,063	11,300	10-3/4 5-1/2 2-3/8	N/A 3,063 2,966			10-09-58	N/A 3,063 2,966	Plug #1 3,063-2,950	? SX		
D-7	C.G. Glasscock Oil	3,100	9,880	10-3/4 5-1/2 2-3/8	243 3,114 3,042			02-23-69	243 3,114 3,042	Plug #1 3,098-Surface	15 Yds cement		15 yards slurry set in 5-1/2 inch casing. Plugs 3,098-surface.
D-8	C.G. Glasscock Oil	3,175	9,000	10-3/4 5-1/2 2-3/8	227 3,166 3,040			02-23-69	227 759 0	Plug #1 2,350-2,335 Plug #2 1,240-1,110 Plug #3 Surface	25 SX 50 SX 10 SX		

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Well Code No.	Operator Lease/ Owner	Total Depth	Dist. From Well	Completion Data				Plugging Data				Remarks
				Casing		Cement		Date Plugged	Casing Left	Cement		
				Size	Depth	Depth	Vol.			Depth	Vol.	
D-9A	Arnold Oil Well #1 J.T. Rogers	3,117/ 3,555	8,900	10-3/4 5-1/2 2"	38 3,117 2,066			N/A	38 3,117 2,066	- - -		No plugs found.
D-10	Thomas West, Jr. #3 J.T. Rogers	2,558	10,150	None	-			12-14-68	-	Plug #1 1,500-1,400 Plug #2 100-0	50 SX 35 SX	
D-12	Cam Corporation C-1 B.J. Rogers	3,044	8,525	7" 6-5/8 2"	204 2,817 3,030			N/A	204 2,817 3,030	N/A		No plug records found.
D-23A	Lobo Resources #1 Valdez-Ramirez	5,410	13,000	8-5/8 4-1/2	1,272 5,405			Active	N/A	N/A	N/A	Active oil well.
D-24	Lobo Resources #3 J.A. Ramirez	6,210	11,500	8-5/8 4-1/2	1,274 5,307			Active	N/A	N/A	N/A	Active
A-32A	Lobo Resources #1 Becker Gas Unit #1	5,510	10,850	8-5/8 5-1/2	605 5,475			Active	N/A	N/A	N/A	Active
A-33A	Thomas S. West, Jr. #1 Gus Becker	2,060	11,300	N/A	N/A			01-05-72	N/A	Plug #1 1,347-1,247 Plug #2 66-0	30 SX 20 SX	
D-13	C.G. Glasscock Oil A-2 J.T. Rogers	3,073	8,000	10-3/4 5-1/2 2"	221 3,072 3,030			02-23-69	221 3,072 3,030	15 yds. cement to plug 3,098-0		
D-14	Cam Corporation #A-1 J.T. Rogers	3,107	7,600	N/A	N/A			11-04-48	N/A	N/A		No plugging records available.

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Well Code No.	Operator Lease/ Owner	Total Depth	Dist. From Well	Completion Data				Plugging Data				Remarks
				Casing		Cement		Date Plugged	Casing Left	Cement		
				Size	Depth	Depth	Vol.			Depth	Vol.	
D-15	Thomas West, Jr. #1 J.T. Rogers	3,850	6,000	N/A	N/A			07-26-68	N/A	Plug #1 1,550-1,450 Plug #2 100-0	32 SX 28 SX	No plugging info found. 10-3/4 bull plug at top surface casing. 10 SX cement plug at surface.
D-22	Cam Corporation #3 G.N. Olson	3,006	8,800	N/A	N/A			N/A	N/A	-	-	
D-23	Pontiac Refining #1 G.N. Olson	3,000	12,100	10-3/4	149			12-31-47	149	Bull plug Surface plug	10 SX	
D-32B	J. H. Chandler #1 R.S. Pena	3,396	11,250	10"	16			11-10-35	16	None		